Real scientists: Real job searches

Subject (Focus/Topic): For students, particular young females, to gain experience in job searching for an aquatic career and understand some of the skills needed to work in the sciences.

Grade Level: 9-12

Average Learning Time:
2 45-minute sessions

Lesson Summary:
Students will read the blogs of over 30 scientists who work in a variety of aquatic fields. They will search job listings using provided search engines to find a job that fits one of these women. They will write a two page essay as to why they think that particular scientist would work well for the job listing.

Overall Concept (Big Idea/Essential Question):
Students will explore over 30 different careers and projects within fields in and relating to aquatic sciences. They will be exposed to a variety of different avenues and have to practice job searching for one of the scientists listed.

Specific Concepts (Key Concepts):
1. Students will understand that there are a variety of careers that relate to water
2. Students will gain insight as to the skills needed/learned by these various women
3. Students will be able to successfully use search engines to find scientifically related jobs.

Focus Questions:
4. What are some of the careers you can obtain with marine biology and other aquatic sciences background?
5. What are some of the ways to do a job search?
6. What kind of skills might you need to be in water related sciences?

Objectives/Learning Goals:
7. Students will have a basic understanding of job searching in aquatic careers
8. Students will have a greater understanding of opportunities open to them in aquatic careers
9. Students will demonstrate ability to match an interview to a job posting
10. Students will be able to identify strengths of scientists for a particular job posting

Background Information:
Applying for science jobs is not always an easy process. Scientists must have and be able to demonstrate skills that are most pertinent to the position they are applying for. This requires highlighting academic achievements, field and laboratory skills, teaching and communication techniques, or even writing and design talents.

The Internet has made the availability of jobs much more readily accessible and many job

applications are now being done online. Job searching can get overwhelming at times, but this activity hopefully will equip students with new ways to search for both science jobs and even internships.

Students will have to look for clues within the interviews of these scientists and match them with different job postings. Students must assume that the scientists in the interview are applying for their next position. They can take their time reading job postings and then find a suitable candidate within the interviews or they can pick a particular scientist and try to match them to a job that they would be eligible for. The key to the success of this activity is a student taking the time to look at the requirements of the job and the skills that the scientist has. They will summarize why this candidate is suitable for the position and looking at how successfully the student is able to match a person and a job description.

Common Misconceptions/Preconceptions:

A common misconception is that because the scientist has the title "chemist" one must find them a chemistry position. Make sure students think outside the box, and as long as they are able to justify their choice it is part of the process of inquiry-based learning.

Materials:

Students will need access to a computer with Internet connection to be able to use the search engines as well as preview the scientists on the NOAA blog.

Technical Requirements:

Computer in classroom with overhead projector to demonstrate what the students will be doing

Teacher Preparation:

Teachers will need to have taken a look at the different search engines as well as the blog to help guide students in deciding how to search and what to search for.

Keywords:

Job Board: A website dealing specifically with the advertisement of employment or careers

Career Networking: making use of the people someone knows to develop their career

Keywords: words or short phrases that help you refine your searches so the job listings in the results closely match the type of position you are seeking.

Pre-assessment Strategy/Anticipatory Set:

Ask your students to write down 10 key words they would search for on a job-posting list to find for any particular job that they are interested in. This will get students thinking about the importance of keywords in finding jobs as well as for future plans of making a resume.

Lesson Procedure:

1. Students will need access to a computer at home or at school to do this activity.
2. Students will look through over 30 blogs of different women working in the sciences on the NOAA Teacher At Sea Blog http://teacheratsea.wordpress.com/category/kaitlin-baird/
3. The student will then choose the scientist they would like to use for their project.
4. The student will be using the questions answered by the scientist to look for their next job placement.
5. The first thing they will do when reading the blog, is come up with 10 keywords or phrases. Words that they will use in their job search, for that particular scientist.
6. Next, they will do a job search using various sites listed in the supporting documents section of this document.
7. Using the various job search engines they will try to find the next job for these scientists (for some they will be students moving to their first job in the field).
8. Students will make use of their keywords to help in the search.
9. A note: not every scientist has to remain in the field as listed in the blog, as long as student can make justification for the position.
10. Student will match up the blog post and their top two choices of jobs for this person to apply for based on keyword searching and qualifications
11. Student will write a two-page essay
12. The essay should answer the following questions
    1. A short introduction to their candidate
    2. The two positions that you have chosen for her to apply to
    3. Give justification as to why they have chosen the given candidate for the two positions (using keywords from original search)
    4. Essays will be submitted with a print out of the two postings as well as the candidate interview.

Assessment and Evaluation:

The essays of the student will be looked at to see if, based on their ability to pull out keywords based on a short interview, they were able to match their candidate with potential opportunities. Students have to exhibit use of keywords and proficiency in using job boards. They must also be able to carefully match the strengths of the chosen scientist with the keywords within the job posting.

Standards:

• National Science Education Standard(s) Addressed:

NSES 9-12 Content Standard E -Science and Technology
Content Standard F -Science in Personal and Social Perspectives
Content Standard G -History and Nature of Science

• Ocean Literacy Principles Addressed:

Principle 7: The ocean is largely unexplored
7F: Ocean exploration is truly interdisciplinary. It requires close collaboration among biologists,

chemists, climatologists, computer programmers, engineers, geologists, meteorologists, and physicists, and new ways of thinking.

• **State Science Standard(s) Addressed:**
The Living Environment
Standard 1:
Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.

Physical Setting and Chemistry
Standard 7: Interdisciplinary Problem Solving
Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.

Reading Standards for Literacy in Science and Technical Subjects 6–12
6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

Speaking and Listening Standard: Comprehension and Collaboration
Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
Presentation of Knowledge and Ideas:
-Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
-Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
-Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grades 9–10 Language standards 1 and 3 on pages 68 for specific expectations.)

College and Career Readiness Anchor Standards for Language Vocabulary and Acquisition Use:
4. Determineorclarifythemeaningofunknownandmultiple-meaningwordsandphrasesbyusingcontextclues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

• **Other State Standards Addressed**

New York State:
Computer Technology
3. Computers, as tools for design, modeling, information processing, communication, and system control, have greatly increased human productivity and knowledge.

Technology Standards
4. Technological systems are designed to achieve spe- cific results and produce outputs, such as products, structures, services, energy, or other systems.

Additional Resources:

http://www.oceancareers.com/2.0/index.php - Ocean Career related fields
http://www.careers.noaa.gov/ National Oceanic and Atmospheric Administration
http://www.coolworks.com/jobs-on-water/ Jobs on the Water- popular water-based jobs
http://www2.vims.edu/bridge/search/bridge1output_menu.cfm?q=ask- Ocean Career Lesson Plans

Author:

Kaitlin Marie Baird
Bermuda Institute of Ocean Sciences
17 Biological Station
St. Georges, Bermuda GE01
Kaitlin.baird@bios.edu

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http://scjobs.sciencemag.org/JobSeekerX/SearchJobsForm.asp

www.stopdodo.com

http://www.marinetech.org/jobs/

http://www.conbio.org/professional-development/scb-job-board/

https://www.usajobs.gov/

http://www.indeed.com/

http://fisheries.org/jobs

http://www.biologyjobs.com/

http://www.ecojobs.com/index.php

http://www.aslo.org/jobs.html

http://www.oceanleadership.org/about-ocean-leadership/ocean-of-opportunities/

http://www.oceanleadership.org/category/opportunities/employment-science-community/

http://www.esa.org/careers_certification/jobLists.php

http://www.nationalgeographic.com/jobs/

http://www.whoi.edu/jobs/